THE CHEMIST

MARCH 1952 VOLUME XXIX No. 3

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Whitehead Professor of Organic Chemistry, Yale University

(See page 95)

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Cover Picture

Dr. Arthur J. Hill was presented with Honorary Membership in THE AMERICAN INSTITUTE OF CHEMISTS, at a dinner of the New England Chapter held at the Harvard Faculty Club, Cambridge, Mass., January 24th.

Dr. Hill was born in Meriden, Conn., and received the Ph.D. degree from Yale University in 1913. He joined Yale as an instructor that same year and became chairman of the Department of Chemistry in 1927. In 1951, he relinquished the chairmanship of the Department for reasons of health, becoming Whitehead professor of organic chemistry. A leader in the field of organic chemistry, he is the author of many papers on biochemical problems, medicinal products, and dye intermediates. He is associate editor of the *Journal of Organic Chemistry*. He is a member of the Committee on Hypnotics and chairman of the subcommittee on Local Anesthetics of the National Research Council. (See pages 103-110 for papers presented on the occasion of the award of Honorary AIC Membership to him.)

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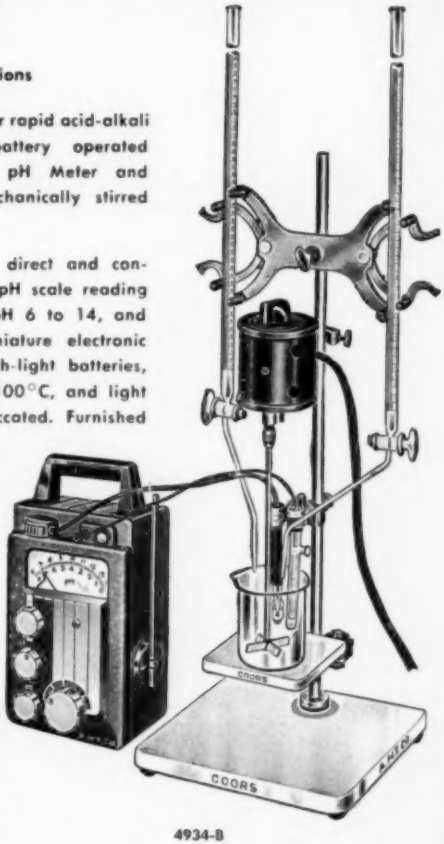

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EDITORIAL

On Getting Acquainted:

Dr. C. L. Brown, F.A.I.C.
Assistant Manager, Standard Oil Development Company
Esso Research Center, Linden, N. J.

CHEMISTS obtain their funds of knowledge, aside from conducting their own experiments, by reading the pertinent literature and by listening to informed people. The awesome magnitude of published material today makes the reading and understanding of it a gigantic problem; hence, recourse to personal contacts with informed people is becoming an ever more important method of acquiring knowledge. One of the least expensive methods of doing research is to get all the background from the man who has worked in the field. A source of new ideas is likewise the man who knows the subject.

He who seeks to accumulate knowledge from others cannot accomplish this purpose without associating himself with others nor can he most efficiently get knowledge in this way without some priqr acquaintance with his prospective source. His basic problem becomes that of making and developing acquaintances who will be of use to him and whom he can serve.

THE AMERICAN INSTITUTE OF CHEMISTS is an organization which can and does foster the opportunity for chemists to become acquainted with their fellows whom they wish to meet. Perhaps, however, this desirable function of the INSTITUTE is not always recognized for the important part it should play. Much energy goes into the preparation of programs of an appealing, interesting character, but less, and sometimes little attention is given to insuring that all who come to the programs are made to feel at home.

To fulfill the potentialities of the INSTITUTE for the developing of acquaintances, it behooves the older members to seek out the newer members and the strangers and to see that they are introduced, not to some, but to many people, so that the feeling of "belonging" is engendered.

With suitable cooperation by the newer members and the strangers the important function of getting acquainted can be properly realized.

Instrumental Analysis: Specialized program offered by Massachusetts Institute of Technology from Aug. 18th to 22nd and Aug. 25th to 29th. Application forms or information may be obtained from Prof. Ernest H. Huntress, Director of the Summer Session, Room 3-107, MIT, Cambridge 39, Mass.

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International Congress of Biochemistry: To be held in Paris, France, July 21st to 27th, at the Grand Amphitheatre of the Sorbonne. For information: Prof. J. E. Courtois, 4, avenue de l'Observatoire, Paris (VI^e), France.

British Industries Fair: To be held in London and Birmingham, England, May 5 to 16, 1952. For information write, British Information Services, 30 Rockefeller Plaza, New York 20, N.Y.; 39 S. LaSalle St., Chicago 3, Ill.; 903 National Press Bldg., Washington 5, D.C., or 310 Sansome St., San Francisco, Calif.

Decorated: Dr. A. Edward A. Hudson, F.A.I.C., by the president of the Republic of Cuba, Carlos Prio Socarras, with the National Order of Merit "Carlos Finlay", in the grade of Commander, at the Cuban Academy of Science, December third. While in Habana, Dr. Hudson was also presented with corresponding membership in the Cuban Society of Biology and Tropical Medicine.

Chairman: Of the Symposium on Electrodeposition Research in Progress, William Blum, Hon. AIC. The Symposium concluded the Semicentennial of the National Bureau of Standards, Washington, D.C. It was held December 4th to 6th, under the sponsorship of the National Bureau of Standards and the Office of Naval Research.

Speaker: Dr. Donald Price, F.A.I.C., who will address the Annual Educational Session of the Los Angeles Branch of the American Electroplaters' Society, in Los Angeles, Calif., on March 22nd. His subject will be "Surface Active Agents in the Field of Electroplating." Dr. Price is chairman of the Research Committee of the Society.

Graduate Student: Oscar R. Rodig, Jr., A.A.I.C., at the University of Wisconsin. He received a student medal from the Chicago AIC Chapter in 1951.

"Chemicals in Food": The subject of Congressional hearings, brought these comments from Dr. Bernard L. Oser, F.A.I.C., director, Food Research Laboratories, Inc., "While there is need for plugging gaps in our food laws, no serious emergency exists. The Federal Food and Drug Administration has the authority to set the limits on the quantity of such chemicals used by the manufacturer, and such agents are used only in quantities established to be free from hazard." He added, "Never before in history has the food of any nation been of such uniformly high sanitary and nutritional quality, and never before have we had such a low incidence of cases of malnutrition or of food poisoning." His remarks were made before the New York Section of the American Association of Cereal Chemists.

Appointed: Dr. T. F. Cooke, F.A.I.C., as manager of the Application Laboratories of the Textile Resin Department of the Calco Chemical Division of American Cyanamid Company, Bound Brook, N.J. Dr. Cook joined Calco in 1940 as a research chemist.

Editor: Rudolph Seiden, F.A.I.C., of the *Livestock Health Encyclopedia* (624 pp. $7.50), just published by Springer Publishing Co., 1 Madison Ave., New York 10, N.Y.

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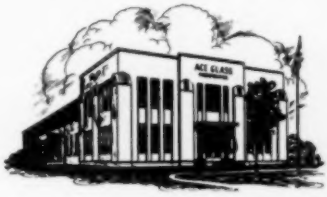

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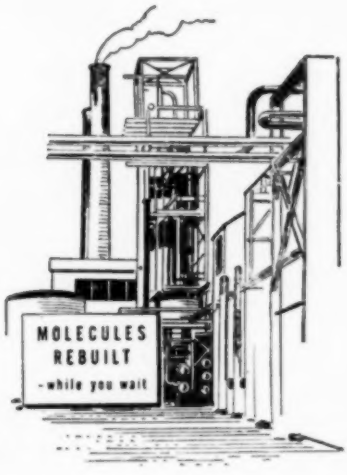

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Some Remarks on the Education of Chemists

Dr. Arthur J. Hill, Hon. AIC

Whitehead Professor of Organic Chemistry, Yale University, New Haven, Conn.

(Acceptance remarks on the occasion of the award of Honorary AIC Membership to Dr. Hill.)

I FIND it difficult to express adequately my deep appreciation of the honor you have conferred upon me. I am grateful too for the pleasant arrangements you have made for this occasion, in particular the fact that two of my good friends have preceded me on the speaking program: Dr. Crossley, who was largely responsible for my joining the INSTITUTE, and whose friendship has meant much to me over the years; and John Timm, a good friend, and for several years a colleague of mine at Yale. I wish he were with us still.

The past year has been an unique period in my career, marked with a tinge of sadness, for me, and yet with many pleasant aspects. In the spring of 1951, it became all too evident that my health was such that it would be necessary for me to relinquish the chairmanship of the chemistry department at Yale, which I had held for twenty-four years. I had hoped, I must confess, to carry on until my retirement from Yale five years hence, as there were many things I had hoped to do for the department. The pleasant facets of the years have been: Occasions arranged by the faculty of the department, by the present graduate students, and a dinner in my honor by my Ph.D.s during the period of the American Chemical Society meeting in New York. And now I am grateful to you for this delightful addition to the pleasant happenings of the year, which I shall always treasure in memory.

I should like to make some remarks bearing on the education of the chemist, certain of which affect the AIC.

It is the laudable objective of the INSTITUTE to raise the professional status of the chemist, or to enhance the prestige of the chemist in our society. There are some happenings these days which I think are damaging the prestige of the chemist, and I should like to recount some of them, which give cause for reflection.

The case for science has been badly presented in recent years. The favorite theme of public orators since the explosion of the atomic bomb in 1945 has been an attempt to show the disservice to humanity of science

in this period of the world's history. Benefits which may accrue to mankind from atomic fission are usually deliberately ignored. I heard recently a painter of some repute develop the extraordinary thesis that the strange and unbalanced efforts of some of the present day artists have, in his philosophy, arisen from the upsetting (to the layman) of the bizarre discoveries of science. Science is blamed also for the stark materialism of the age.

I am troubled too over the lessening of interest in chemistry as a major, the consequence of which is already shown in the shortage of chemists for industry. This is giving real concern to industrialists.

In these days of unrest, arising from the threat of global war, from crushing taxation, and from malfeasance in office among public servants, it appears that the chemist could well play and should play some part in public affairs. Science teaches the importance of clear thinking and of truth. It would be pleasant to detect these cardinal virtues in national and international affairs.

I think it is fair to say that in few universities would there be a substantial number of professors in the humanities who would enthusiastically urge a protege to major in chemistry. There appears to be a strongly intrenched feeling that science curricula are too narrow in cultural breadth.

I have been disturbed, I must confess, over the attitude of the parents of some of the students contemplating a career in chemistry. Some have expressed their disquietude over the nature of the program for majors in chemistry, regarding it as savoring of too great concentration, notwithstanding courses in modern language, and in English composition, to say nothing of electives.

On the other hand, one of my good friends, an "elderly statesman" in American Chemistry, feels that the way to learn chemistry is "to live and breathe it for six days a week for the duration of the course". Personally I doubt the wisdom of such an education, and strongly favor some liberalization.

There is, in the background of these random sentences of mine, ranging from the atomic bomb to the prestige of chemistry in the eyes of scholars in the humanities, and to curricula criticisms, a number of pressing questions affecting THE AMERICAN INSTITUTE OF CHEMISTS. If the chemist is to be able effectively to solve the scientific problems given him by industry, or those arising from his own originality in the university laboratory; if he is to take some modest part in civic, state, or national affairs, or if he is to support the cause of science in this complex society of ours, what should be the substance of his educational background? For what kind of educated

scientist is the INSTITUTE endeavoring to enhance the status?

It seems to me that the time has come to re-assess thoughtfully the values of our present curricula for the education of chemists. Should there be a considerable liberalization of the present courses of study, giving less chemistry, and more opportunities for the election of subjects in the humanities?

I am not asking the INSTITUTE to usurp the prerogatives of the accrediting committee of the American Chemical Society. This committe has done an extraordinarily good job, materially strengthening the staff of many institutions, paving the way in many for better laboratory facilities and equipment, and giving to harassed departmental chairman cogent facts in dealing with university administrative officers. But the opinion of the INSTITUTE on curriculum would I am sure be valued by the Accrediting Committee.

For my part I am profoundly impressed with the need for the study of the education of the chemist, in the light of his future usefulness as an investigator, and the part he must play in our modern society.

Arthur Joseph Hill

Dr. John A. Timm

Director, School of Science, Simmons College, Boston, Mass.

(Presented on the occasion of the award of Honorary AIC Membership to Dr. Hill, at the Harvard Faculty Club, Cambridge, Mass., January 24, 1952.)

IT IS always a source of pleasure to a former student to be able to state before others his appreciation of a teacher to whom he has reason to be very grateful. A Yale man always welcomes the chance to praise another son of old Elihu on any occasion whatever and wherever he may be. But if he could choose the place, I doubt if a happier choice could be made than the spot in which we meet to honor Arthur Joseph Hill.

He was born in Meriden, Connecticut, on April 21, 1888; graduated from the Sheffield School of Yale University in 1910; and received the Ph.D. degree under Treat B. Johnson in 1913. That same June he married Helen Rice. I am certain that his former students will agree with me and with him that in doing so he made the finest choice of his career. Whenever a graduate student was in trouble or discouraged, Arthur took him home to dinner and in the tranquil atmosphere of their home, his troubles vanished and his self-confidence was restored.

We all know how unlikely it is

for a son to follow in his father's footsteps; but Arthur, Jr., is a chemist at the Polychemicals Division of DuPont and, of course, a graduate of Yale with the bachelor's and doctor's degrees. I have always regretted that his two daughters, Ruth and Dorothy, were not sent to Simmons so that they too might have become chemists. However, I am certain that Arthur is far prouder of his grandchildren than he would have been of any research his daughters might have produced.

Arthur Hill's rise from an instructor in 1913 to a full professor in 1925 was accomplished over a remarkably short span of twelve years. In 1926 he was named head of the department and served in this capacity until 1951. He has been Whitehead professor of chemistry since 1942. These are the bare facts of his career; but between the lines is the history of a life devoted not only to his research but also to the welfare of his students and his colleagues and to Yale.

In preparing for this occasion, I wrote to Helen Goebel, the secretary of the department since the first world war, in the hope that she might send me some anecdotes. These I received. At the same time, however, in warning me against what I must not do, she paid Arthur a fine tribute. I quote from her letter, "However, let me warn you not to get too flowery—that could be a warning to all speakers—as Arthur is not that type of person, and it would take some of the pleasure away from him".

One of her anecdotes I must pass along to you just as she wrote it: "The one high point in humor that remains with me is when two nuns applied for admission to the Graduate School. Their records were fully up to admission standards, but Professor Hill was disposed to refuse admission because he had misgivings with respect to the fire hazard arising from the conventional costume of the order. He recommended to the graduate school that admission be refused because 'the graduate quota had been filled'. However, the then dean of the school wrote the head of the school, from which the girls had applied, denying admission on the grounds of the fire hazard and not on the basis of a 'full quota'. After a lapse of a week, the dean of the Graduate School called Professor Hill stating that he had a wire from the mid-western school asking if the girls could be admitted, provided they wore fireproof garments. In dismay and rage he reluctantly replied yes, not knowing how to enforce the garment restriction. Helpful faculty members suggested a committee of one for daily inspection. To the glory of Yale it may be said that no inspection was ever made, not even by the chairman."

You have all heard the description

of a typical professor of organic chemistry as one who writes in a frenzy of inspired zeal with his right hand even as he erases frantically with his left. In this sense Arthur is not a typical professor of organic chemistry. His lectures in graduate organic and in medicinal chemistry were always carefully prepared on 5" x 8" cards. Never was he guilty of committing an illegible scrawl on the blackboard. His explanations were masterly and notes were easy to take. As a result he has never lacked students. I have a list of one-hundred and twenty-three such students who received their degrees under his guidance. So many of these have risen to eminence in their profession that it would be unfair to select a few for special comment.

He was named head of the department in 1926, just one year after he had become a full professor. I have often pictured him surrounded and outnumbered in executive committee meetings by his former teachers, Johnson, Foote, Bottwood, and Walden, trying with all the tact at his command to run the department. Great credit is due to him and to them that at least on the surface and, for all I know, in the sanctum of the executive committee everything ran so smoothly. His senior professors were fine persons but at least three of the four could be rugged individualists. As the years went by no trace of the dictator developed in his personality. Even the friendly but long-standing feud between the physical and organic chemists gradually died out. He was especially valuable in his work with the younger members of the staff, encouraging them in their research, suggesting ways of overcoming difficulties, and, if he had to tell them unpleasant truths, doing it so tactfully that they went away with no resentment but resolved to do better.

He had one fault. Whenever unpleasant, routine tasks had to be done, he would always do them himself. He might have saved himself endless hours of work, if he had shared the load with other members of the staff. The twenty-five years of his administration have been marked by a sound, steady growth of the department. The task of persuading the administration of the university to recognize the financial needs of a modern chemistry department was a difficult one which he carried on with tact but persistence. The results of his efforts are everywhere apparent in the Sterling Chemistry Laboratory of today.

May I congratulate THE AMERICAN INSTITUTE OF CHEMISTS on its choice of Arthur Hill to receive an honorary membership. He is a great teacher, a fine administrator, and a beloved friend.

Arthur Joseph Hill — His Professional Career

Dr. M. L. Crossley, Hon. AIC

Former President, The American Institute of Chemists

(Presented at the Award of Honorary AIC Membership to Dr. Hill)

WE ARE privileged to honor a chemist who has demonstrated unique qualities of leadership as investigator, administrator, and teacher. It is a pleasure to me to review briefly the impress Arthur Hill has made on our profession.

He has trained and led a great many teams of young chemists across the border of the unknown in organic chemistry and brought out many novel and useful syntheses for a great variety of new products in a number of fields. He has pioneered in the synthesis of products in many classes as widely different as the phenanthrenes and the pyrrolidines. He has done more than produce a long list of compounds. The results of his researches have opened up new prospects for others to explore. His insight and proficiency have always widened the scope of his researches and given his young associates opportunities for creative endeavor. His researches on local anesthetics alone would suffice to place him high in the scientific hall of fame. Some of his discoveries have led to the development of useful therapeutic agents, such as antispasmodics, hypnotics, and anesthetics.

In addition to the syntheses of new products, he has led the way in developing improved processes for the production of old and useful products. In particular, his work on the catalytic conversion of aniline into diphenylamine led to a process which could have been of considerable commercial value had there been a sustained need for the product.

His work on local anesthetics made it possible for one of his students to develop a product which has proven to be of commercial value. And, as a result of his fundamental work in syntheses, one of the first useful antispasmodics was developed in this country.

Arthur Hill has been a great teacher and a wise administrator. He has inspired many young men to wish to serve with distinction. A goodly number of his students are to be found in positions of leadership both in theoretical and applied chemistry. His breadth of knowledge has always challenged his assistants to seek more and more information and to organize it into useful knowledge. Among the many excellent qualities which he possesses, sincerity, thoroughness, tolerance, high sense of moral values, and a sense of individual responsibility are woven into the

fabric of his success in all of his endeavors. These qualities have endeared him to his students and associates. Arthur Hill's sincerity has always generated confidence, assured cooperation, and compelled respect. His emphasis on thoroughness has instilled in his students a high appreciation of the fact that expertness is built only on broad proficiency of knowledge.

His tolerance for the opinions which he does not share, his high sense of moral values, and his insistence that a student accept responsibility for the results of his work have fostered principles which have helped many of his students to develop strong attributes of leadership. A larger percentage of research chemists trained by Arthur Hill has won distinction and gained positions of responsibility in the Calco Chemical Division of the American Cyanamid Company than trained by any other teacher from any other university.

The recognition by his peers that one has discharged the obligations of his profession with usefulness and distinction is a high honor. I know of no man more deserving of this honor than Arthur J. Hill.

Presentation of Honorary AIC Membership to Professor Hill

President Lawrence H. Flett

The American Institute of Chemists

I AM HAPPY that I am able to participate in this meeting which honors one of our great educators.

Because the members of the INSTITUTE are chemists, they are, indeed, indebted to those among us who are teachers. It is only through the teachers that the science of chemistry is kept alive. If it were not for their contributions, all knowledge of chemistry would soon disappear.

People in industry like to feel that industry's demand for chemists is the sole factor which keeps the schools of chemistry in operation. The truth of the situation is that industry may only have the chemists over and above those necessary to teach the science. If the chemists were reduced in number to those essential to teaching, we would be faced with the alternative of either leaving those teachers to keep the science alive or of taking those teachers and giving up the science of chemistry for future generations.

The problems in the teaching of chemistry have been greatly multiplied since I studied chemistry, now over thirty years ago. There has been a tremendous increase in scientific knowledge in the field of chemistry,

and there are many new specialized fields of chemistry. Nevertheless, chemistry is being taught in the same period of years, as it has been for as long as any of us can remember. This ability to teach our expanding science in the same few years is a very great accomplishment on the part of our educators and has passed almost unnoticed.

Our modern scientific economy depends upon the students whom these educators provide. If the period of education doubled every time our scientific knowledge doubled, chemistry graduates would be very few, and those few would be needed just to teach such expanded courses. We are indebted to our educators for their ability to avoid such a situation. The INSTITUTE wishes to acknowledge this indebtedness on every occasion.

Prof. Hill has been one of our great educators, and he is already well-known by the accomplishments of his students. Both his students and the science which they serve are indebted to Prof. Hill for his continued interest in them long after they left college. This extended interest assured these men a sound start in their professional career.

In addition to his accomplishments as an educator, Prof. Hill has played an important part in scientific activities. I would like to mention just one, and that is his great contribution to the reorganization of the Gordon Research Conferences at a time when they were going through a very critical period.

Professor Arthur Joseph Hill, I am honored to be able to represent those members of the INSTITUTE who are unable to attend while you are presented with your certificate of Honorary Membership in THE AMERICAN INSTITUTE OF CHEMISTS. The INSTITUTE presents this Honorary Membership to you in recognition of your very valuable contributions to the profession.

The citation on your certificate reads as follows:

A noted educator whose encouragement and guidance of young chemists both before and after graduation has inspired them to high professional achievement.

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Check-List for Prospective Employees

Dr. Herman S. Bloch, F.A.I.C. and Dr. W. I. Harber, F.A.I.C.

(This report of the sub-committee of the Chicago AIC Chapter's Committee on Economic Status is intended to summarize in handy form the various criteria by which job opportunities for chemists may be compared. It was compiled primarily for industrial chemists. It is apparent that not all of the factors listed will be applicable to every job, and that each applicant must assign for himself the relative weight of the various considerations.)

I. **Opportunities for Advancement**

- A. Financial history and stability of company (or company unit)
- B. Company attitude toward research
  1. History of company's research activities
  2. Percent of income spent on research
  3. Percent of income credited to research
  4. Record on research during depression or recession periods
  5. Future plans for research and technical development
- C. Company attitude toward technical personnel
  1. Relative abundance of top jobs filled by technical men (or men of applicant's technical background)
  2. Relative abundance of top jobs open to technical men filled from outside and from inside company
  3. Turnover record of technical personnel in company and specific department of interest
     - a. By voluntary resignation
     - b. By dismissal
     - c. Policy toward older employees
  4. Freedom of interchange of technical information within company
  5. Record on recognition of achievement
  6. General job termination policy
- D. Organization chart or job classification scheme affecting applicant

II. **Direct Monetary Benefits**
- A. Salary, including overtime
- B. Frequency of and basis for salary increases (merit of work, success of work, seniority, advancement in job classification, etc.)
- C. Bonuses
  1. Profit sharing
  2. Bonuses for disclosures of inventions, patent applications, issued patents, inventions put into commercial use
  3. Royalties
- D. Scale of severance pay
  1. Policy on resignation
  2. Policy on discharge

III. **Supplementary Benefits**
- A. Vacation plan
- B. Sick leave plan
- C. Pension plan
- D. Insurance plans (life, health, accident)
- E. Medical services
- F. Medical and hospitalization insurance
- G. Opportunity for and conditions attendent on engagement in outside consultation

IV. **Professional Privileges**
- A. Employment contract
- B. Extent of company payment for attendance at technical meetings (local and out of town)
- C. Publication Policy
- D. Encouragement of professional activities
- E. Educational facilities, aids, subsidies
- F. Freedom in selection of problems and conduct of research
  1. Closeness of supervision
  2. Opportunities for change of job within company if dissatisfied
  3. Opportunity for research on problems of personal (but not company) interest
     - a. During regular working hours
     - b. After regular working hours
- G. Patent policies
  1. Requirements for disclosure of inventions
  2. Extent to which inventions are covered by patents or maintained as trade secrets
  3. Scope of inventions mandatorily assigned to employers
- H. Limitations on disclosure of information or on work in

employer's field after termination of job

V. **Environment**
   - A. Working conditions
     1. Availability of adequate laboratory facilities
     2. Availability of adequate assistance
     3. Library facilities
     4. Working hours
   - B. Living conditions in community
     1. Housing
     2. Educational facilities for children
     3. Recreational facilities
     4. Cultural environment
     5. Social environment
     6. Relative cost of living

VI. **Other factors dependent on personality, background, viewpoint, or special requirements of individual applicant**

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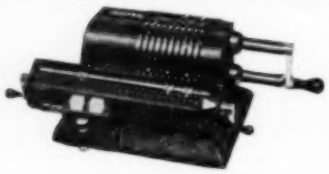

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X-ray Diffraction School: To be given by North American Philips Company, Inc., 750 South Fulton Ave., Mount Vernon, N.Y., April 21st through April 25th. Information may be obtained from the company.

Started: Commercial production of Cortisone by the Glidden Company at its Soya Products Division, Fine Chemicals Laboratory, Cleveland, Ohio. Vice president P. E. Sprague stated that Glidden's steroid research staff, headed by Dr. Percy L. Julian, F.A.I.C., claims to have made improvements "resulting in the best process to date for certain steps in the complicated synthesis of Cortisone."

Appointed: M. R. Bhagwat, F.A.I.C., to the Development and Research Division of Hooker Electrochemical Company, Niagara Falls, New York.

Promoted: Jeffrey R. Stewart, F.A.I.C., to the Federal Supply Service of the General Services Administration, Washington 25, D.C., following an assignment as chemical engineer with the Bureau of Yards and Docks, Department of the Navy. Mr. Stewart is also preparing the fourth edition of the *National Paint Dictionary* for distribution in 1953.

"Business Statesmanship": Made possible the opening of India's first dyestuff and pharmaceutical plant at Bulsar, near Bombay, officials of American Cyanamid Company announced recently. Cyanamid provided the technical knowledge and ten per cent of the capital needed to create the Atul plant, while India's bankers and business men provided the other 90 per cent of the capital.

"Surprise Package": Announced by Hagan Corporation, Pittsburgh, Pa., for all employees including those of subsidiaries. It includes a broad retirement pension plan and a profit-sharing plan based on the company earnings. Both plans are non-contributory.

The Charles R. Robertson Lignite Research Laboratory

Dr. G. A. Abbott, F.A.I.C.

Professor of Chemistry, University of North Dakota, Grand Forks, N. Dak.

(Report of the AIC delegate to the dedication of this laboratory).

THE Nation's first laboratory built exclusively for lignite research was formally dedicated, at Grand Forks, North Dakota, September 29th, by the U.S. Bureau of Mines. It bears the name of the late Congressman, Charles R. Robertson, whose tireless efforts contributed much to the success of the enterprise.

This laboratory, authorized by Congress in March, 1948, was completed and occupied in December, 1950. It is headquarters for the Fuels Technology Division, Region V, of the U.S. Bureau of Mines, the Division engaged in basic research on solid fuels.

The $750,000 laboratory is located adjacent to the campus of the University of North Dakota, at Grand Forks, in the State which contains some 300 billion tons of the total reserve of 335-billion tons of estimated recoverable lignite in the United States. It marks the culmination of a half-century of close cooperation between the College of Engineering of the University of North Dakota and the U.S. Bureau of Mines in the study and development of lignite fuels.

The U-shaped laboratory building has excellent modern facilities for conducting an effective research program. The administrative wing contains a large general office, six well-equipped administrative offices, a library, conference room, and twenty-seven individual laboratories, as well as other service rooms. Adjoining this two-story wing, on the south side, is the three-story pilot plant for large-scale experimental work. Structurally, it is separated from the rest of the laboratory by a special accordion-type joint intended to prevent damage from temperature changes or differential settling. Heavy equipment is easily moved about this plant by means of a five-ton travelling crane. A machine shop, and a steel storage room open directly into the plant. An efficient exhaust system serves to keep the plant free from dust, smoke, and harmful fumes. Numerous duct inlets permit equipment to be connected with this exhaust system anywhere in the plant.

A four-story coal preparation unit adjacent to the pilot plant serves to prepare sized lignite for any purpose, and permits the investigation of large-scale crushing and screening. On the University campus, about half a mile from the Lignite Laboratory, is the U.S. Bureau of Mines lignite gasi-

fication pilot plant which has been in operation, during test runs, since 1945. During this time 85-million cubic feet of gas have been produced from lignite, in the unique, vertical, annular retort made of chromium-nickel-iron alloy. This is a full-size commercial unit. It can be regulated to produce ordinary water gas, so-called "Synthetic gas," or nearly pure elementary hydrogen. Potential uses for this cheap hydrogen are: (1) The reduction of Minnesota iron ores, (2) The manufacture of ammonia fertilizer, and (3) The hydrogenation of vegetable oils and fats.

The U.S. Bureau of Mines is fully aware of the potentialities of lignite as a low-cost fuel, and as a promising supplement to hydroelectric power; but it also envisions a future when this reactive basic raw material may furnish synthetic liquid fuels, and serve as a source of valuable chemicals. The Lignite Laboratory hopes to anticipate and develop these possibilities.

The serious investigation of North Dakota lignite began in 1889, when the late Earl J. Babcock published his first paper. He was the first State Geologist, and the dean of the North Dakota School of Mines, established that year. During the following thirty-six years he was active in mapping the extent of the lignite deposits, and in studying methods of combustion, carbonization, gasification, and briquetting.

When the U.S. Bureau of Mines was established in 1910, Dr. A. C. Fieldner became chief of the Division of Mines and Explosives, and he immediately established close cooperation with Dean Babcock and later with Dean Harrington. This continued over a period of forty years finally culminating in the establishment of this modern research laboratory.

The Laboratory is under the general supervision of Paul Zinner, director of Region V, U.S. Bureau of Mines, St. Paul, Minn., and is under the local administration of Alex C. Burr, chief of Fuels Technology Division, Region V, of the U.S. Bureau of Mines.

President: Dr Joseph Schultz, F.A.I.C., of Lady Esther Ltd., Chicago, Ill. He was also named treasurer of the firm. He succeeds the late Alfred Busiel. Dr. Schultz joined Lady Esther Ltd., cosmetic manufacturers, ten years ago, and in 1948 became general manager. Previously, he was research director for the New York Quinine and Chemical Works, Inc. During the war, he directed a malaria research project in collaboration with the U.S. Public Health Service, and at present he directs an atomic radiation project with the Argonne National Laboratories.

Corn and Its Chemical Products

Dr. E. W. Reid, F.A.I.C.

President, Corn Products Refining Company, New York 4, N.Y.

(Excerpts from the author's address accepting the 1951 medal of the American Section of the Society of Chemical Industry.)

THE relationship of chemistry, agriculture, and particularly the relation of the latter to modern civilization is little realized, and by agriculture, I refer in particular to the cereals. An ancient philosopher once said that "no civilization worthy of the name has ever been founded on any other agricultural basis than cereals." . . .

Of the cereals, corn, or, as it is known in many parts of the world, Indian maize, is by far the most important. Corn is strictly a product of the Americas and was entirely unknown in any other part of the world before Columbus made his discovery. Later he wrote of seeing fields of Haitian corn eighteen miles long. The importance of this grain in the development and growth of our country is little realized, nor is it generally known that due to this grain, the Americas are the only countries of the world that have never had a major famine. The origin of corn is unknown, although the oldest record points to Peru. It has never been found in the wild state, the evidence suggesting that one of its original parents is extinct. Unlike other grains, corn is not "self-grown" and it has, so far as is known today, always been dependent upon man for its existence. Corn is grown in every state in the Union and in every country in the Western hemisphere.

The sun never sets on growing corn. The world acreage, approximately 210 million, ranges from 58° north latitude in Canada and Russia to 40° south latitude in the southern hemisphere. It is grown below sea level in the Caspian Plain, at altitudes of more than 12,000 feet in the Peruvian Andes, in regions of less than 10-inches annual rainfall in the semi-arid plains of Russia, in areas of more than 200-inches in the tropics of Hindustan, in short growing periods in the northern U.S. and Canada, and in the perpetual summer of tropical Colombia.

Corn shaped the destiny of the new world and is still one of the important factors economically for our prominence among nations. This cereal which has made history is not only a native grain, but also domestically consumed. Approximate-

ly 85 per cent of our production never leaves the farm. When the existence of the Massachusetts and Jamestown settlements hung in precarious balance in the first hard winter of their settlement, it was corn which they obtained from the Indians that saved them. The first settlers that crossed the Alleghanies soon sent back word of the richness of the soil in the Mississippi River basin, tall tales of the growth of corn, of sleek cattle and fat hogs. In 1812, because a major part of our population was on the Atlantic seaboard, they were dependent upon the importation of most of their food. When the British Blockade cut off this importation, famine was only averted in these states by the food supplied from the then little-known Middle West. This started a great migration westward, the beginning of a new era in the history of this country.

The Milling of Corn

There are two methods that are used in the milling of corn, the dry and the wet. Compared with most chemical processes, the wet milling of corn and the production of starches, dextrines, and sugar is a simple process. In brief, it consists of steeping the shelled corn for about one and a half days in water containing a small quantity of sulfur dioxide. The steeping loosens the hulls and softens the gluten, while the sulphur dioxide prevents fermentation. The steepwater absorbs most of the mineral matter, soluble proteins, and carbohydrate. After special treatment, the steepwater is utilized in the production of antibiotics. The remaining starch, protein, fiber, and germs are separated by mechanical means and utilized to produce a number of industrial products.

Industry utilizes the products of this grain in several hundred applications. The diversity of uses ranges from various food products to core binders, from baby feeding to the separation of ores, from textiles and paper to oil well drilling. In fact, almost every facet of modern industry and modern living requires the products of the wet milling industry.

Chemical Products from Corn

The development of chemical products from starch, glucose, and proteins has received considerable publicity, but up to the present time has not resulted in any sizable development. The alcohol-soluble portion of the protein of corn, which is known as zein, is being utilized to a limited extent in the production of a textile fiber known as Vicara. This fiber has most of the attributes of wool, but is not affected by molds or moths. It has certain moisture absorption properties that can be regulated within limits, and it can be blended to advantage with other synthetic or natural fibers. Zein is also used as a greaseproof coating, in high-speed inks, certain types of paper coatings,

as a cork binder and for a wide variety of other uses.

The hull or bran of practically all cereals contains phytates, usually in the form of a metallic salt, such as magnesium, calcium, potassium, etc. These phytates appear in the steepwater of corn and can be isolated and used for the production of various metallic phytates, phytic acid, and on hydrolysis, inositol. Inositol is one of the vitamins, but its exact role in nutrition is not fully established. It apparently has some lipotropic function, and also is believed to have a definite benefit in certain circulatory diseases. Since it has six hydroxyl groups, it may be reacted to produce esters, ethers, and amines. The nitrated form is used to control high blood pressure. It can be oxidized to inosose, tetrahydroxyquinone, rhodizonic acid, triquinoyl, and croconic acid.

Starch can be reacted with a large number of other chemical products and in various ways to produce such compounds as carboxymethyl starch and other carboxyalkyl starches. The lower carboxyalkyl starches are, in the main, cold water soluble products of high viscosity and stability. They can be used as food thickening agents, emulsion, suspension and stabilizing agents, paint binding, printing dye thickeners, textile and paper sizes. If the starch is reacted with highly unsaturated groups such as allyl or vinyl, resinous and plastic materials can be produced. Other products, such as the esters and ethers of starch have been produced in the laboratories, but up to the present time have not found wide industrial use.

Dextrose, produced by the hydrolysis of starch in the presence of an acid, can be polymerized or oxidized, and therefore offers a rather wide and potentially fertile field in the development of chemicals. A number of chemical compounds can be produced by the oxidation of dextrose, among which is glucuronic acid that is being tested clinically for use in arthritis and as a general detoxifying agent. Various organic acids can be produced from dextrose, such as saccharic, tartaric, levulinic, gluconic, citric, and such products as hydroxymethylfurfural, which is normally considered an intermediate in the formation of levulinic acid. Sorbitol and mannitol are produced from dextrose by electroyltic or catalytic reduction. Sorbitol is an intermediate in the production of ascorbic acid or vitamin C, and is also used as a humectant, plasticizer, and in the preparation of esters and resins.

Mannitol hexanitrate is utilized to some extent in the explosives field. The oxidation of dextrose in strong alkali solution, under proper conditions, will produce d-arabonic acid which, by heating with aqueous pyridine, will yield d-ribonic acid which is the base for the synthesis of riboflavin.

The oil of corn, obtained from the germ is not only used as a food, but is a source of raw material for the production of a large and diversified group of carbon-rich chemicals. In addition to the glycerides of the fatty acids, it is a source of other products such as sterols, tocopherols and carotinoid pigments. The sulfated and sulfonated oil has use as an emulsifier and textile lubricant. The fatty acids may be used in the synthesis of various products useful in the preparation of water-proofing agents, emulsifiers, detergents, flotation agents, insecticides and plasticizers.

The tocopherols, vitamin E, can be separated and purified. Several sterols, chiefly sitosterols, may be separated and utilized in the preparation of hormones.

A rich source of carotinoids is the xanthophyll oil, a highly pigmented product obtained from the gluten of yellow corn. This product is used in poultry feeds to increase the skin pigmentation of the fowl and to improve the color of the yolk of the eggs.

The utilization of agricultural products as raw materials for the synthesis of new chemical products offers a new, challenging field. It is a field of science that requires a large amount of fundamental research, as well as industrial development and application.

Office: Opened by Dr. Frank Makara, F. A. I. C., counsellor-at-law, registered patent attorney, at 233 Broadway, New York 7, N.Y.

Associate Director: Dr. Louis Koenig, F.A.I.C., of Southwest Research Institute, San Antonio, Texas. He was formerly with Armour Research Foundation, Chicago, and recently with Stanford Research Institute of Palo Alto, Calif.

Additional Responsibility: Given to Paul M. Downey, F.A.I.C., group leader at the Monsanto Chemical Company plant at Nitro, West Virginia, for the Nitro rubber-application laboratory. He will also help coordinate research, development, and sales activities for rubber chemicals.

Guest: Dr. James R. Withrow, Hon.AIC, at the dinner of the Engineers Club of Columbus, Ohio, in honor of past presidents, on March third. Dr. Withrow, who is one of only two honorary members of the Club, served as its president for 1921-1922.

Director of Research: Dr. A. Lloyd Taylor, F.A.I.C., for the research laboratories of MacDermid Western, Inc., Ferndale, Michigan. He was formerly director of research of Oakite Products, Inc., vice president for H. L. Shaw & Sons, Inc., and research supervisor for Wyandotte Chemicals Corporation. He served as chairman of the New York AIC Chapter in 1945-46.

Necrology

James G. Vail

With the death in New Delhi, India, on December 11th of James Garrett Vail, the world has lost one of its finest humanitarians; the chemical profession has lost one of its leading minds, and THE AMERICAN INSTITUTE OF CHEMISTS has lost one of its brightest stars. Dr. Vail was successively chemist, chemical director, and vice president of the Philadelphia Quartz Company. He was author of an American Chemical Society Monograph, "Soluble Silicates in Industry". He was the recipient in 1933 of the Chemical Industry Medal of the Society of Chemical Industry.

These things he put aside to devote the major portion of his efforts for the past fifteen years to humanitarian work all over the world. His introduction to this work came in 1920 with the feeding of German children in cooperation with the Hoover Commission and, during more recent years in association with The American Friends Service Committee, his travels had taken him to Germany, to Palestine, to India.

Dr. Vail was a graduate of the Westtown School and had studied at the University of Pennsylvania, Harvard University, and the Institute of Technology at Darmstadt, Germany. In 1946 he received the honorary degree of Doctor of Science from Haverford College.

He was past president of the American Institute of Chemical Engineers, past chairman of the Philadelphia Section of the American Chemical Society, past chairman of the American Section of the Society of Chemical Industry, and a Fellow of the American Ceramic Society. He was member of the Franklin Institute, University Club of Philadelphia, The Chemists' Club, New York, and the Cosmos Club of Washington. He was elected a Fellow of THE AMERICAN INSTITUTE OF CHEMISTS in 1936.

The distinction of servant of humanity was added to these and outshown all the others. The profsion of chemistry can have no better model of the complete man, than James Garrett Vail.

—K.M.H.

Walter E. Thrun

Dr. Walter Eugene Thrun, head of the Department of Chemistry at Valparaiso University, Indiana, died suddenly at his home near Valparaiso on August 19th, thus terminating twenty-five years of service to the university, He had been head of the Chemistry Department since 1932.

He was born, March 22 1892, in Wakarousa County, Wisconsin. After attending Northwestern College for two years, he transferred to

the University of Michigan, from which he received the A.B. degree in 1912 and the M.S. in 1914. He received the Ph. D. in agricultural chemistry from the University of Missouri in 1917.

He was assistant chemist for the Missouri Agricultural Experimental Station, 1914-1917; sergeant with the U. S. Army Gas Defense and Nutrition unit, 1917-1918; a fellow at Johns Hopkins School of Hygiene and Public Health in 1919; professor of chemistry at Baylor University Medical College, 1919-1920; associate professor at Mississippi State College, 1920-1923; associate professor at the University of Louisville, 1923-1924; a fellow at Lehigh University, 1924-1926; chemist at the Michigan Department of Health, 1926; research chemist with the Michigan Agricultural Experimental Station to 1928. In that year he went to Valparaiso University as assistant professor.

Dr. Thrun was especially interested in the prevention of dental caries by the fluoride treatment of public water supplies and he had devised a rapid field method for the determination of the fluoride content of water.

His memberships included the American Chemical Society, the American Association for the Advancement of Science, the Indiana Academy of Science, and Sigma Xi. He was elected a Fellow of The American Institute of Chemists in 1936.

Boris N. Lougovoy

Boris Nicholas Lougovoy, chief research chemist of the American Chicle Company, Long Island City, N.Y., died October 19, 1951, in Kew Gardens (N. Y.) Hospital after an operation. Born in St. Petersburg, Russia, December 6, 1888, he attended Alexander's School of Cadets. He received the B.S. degree in 1908 and the Ph.D. degree in 1913 from the Academie d'Artillerie Michel. He did post graduate work at the University of Toulouse, France, and the Sorbonne in Paris, from 1916 to 1917.

From 1916 to 1918, he was a representative of the Russian Government on the Russian Artillery Commission in Paris, France. During part of this period, 1917 to 1918, he was head of the smokeless powder division of the Borern Dekta Explosive Plant in Russia. In 1918, he came to the United States, where he started as research chemist with E. I. du Pont de Nemours & Company, Inc., working on smokeless powder. He was research chemist with the Aetna Explosive Company from 1920 to 1922. For a short period in 1922, he acted as consulting engineer for Picatinny Arsenal on flashless powder. From 1922 to 1928, he was research chemist with the Ellis Foster

Company. He joined the American Chicle Company as chief chemist in 1928.

His specialties were explosives, smokeless powder, nitrocellulose, synthetic resins and plastics, organic synthesis, flavors, natural gums and resins, and he held many patents in these fields.

His memberships included the American Chemical Society, the Russian Nobility Association and the Russian Children's Welfare society in which he served as vice president.

He was elected a Fellow of THE AMERICAN INSTITUTE OF CHEMISTS in 1943.

He leaves his wife, Tatiana Lougovoy.

Kendall-Hench Fund: Created by the Research Corporation, 405 Lexington Ave., New York 17, N.Y., through a grant of $100,000 by Merck & Co., Rahway, N.J., and an allotment by Research Corporation of a part of its income from patent rights in cortisone, "to recognize the significant contributions of Drs. Kendall and Hench to the development of cortisone." The first grant of $22,500 has been made to Princeton University to help initiate and support Dr. Kendall's researches at the new James Forrestal Research Center. Additional commitments of $12,500 a year for the next two years were also made to assure continuity of the work.

The Industrial Decline of England: Due in part to England's lack of appreciation of the indispensability of research and development in an industrial system fired by competition, according to Vice Admiral Harold G. Bowen, executive director of the Thomas Alva Edison Foundation, Inc. He cautioned the United States to profit by England's example.

Lubricants: Subject of conference to be held in Cleveland, Ohio, by the Case Institute of Technology and the Cleveland Section of the American Society of Lubrication Engineers, on April third to fifth. For information write Douglass W. Miller, Executive Secretary, Case Institute of Technology, Cleveland 6, Ohio.

Fortieth Anniversary: Of the Research Corporation, 405 Lexington Ave., New York 17, N.Y. The Corporation was founded by the late Frederick G. Cottrell, who received the AIC Gold Medal in 1938. His biography, entitled "Cottrell", by Frank T. Cameron, has just been published by Doubleday & Company.

Spring Meeting: American Oil Chemists Society. April 28th to 30th, at the Shamrock Hotel, Houston, Texas. The general chairman is William Argue of Anderson Clayton and Company, Houston.

COUNCIL

OFFICERS

President, Lawrence H. Flett
President-elect, Lincoln T. Work
Secretary, Lloyd Van Doren
Treasurer, Frederick A. Hessel

COUNCILORS

John R. Bowman, *At-Large*
Cecil L. Brown, *New Jersey Chapter*
Emmett B. Carmichael, *Alabama Chapter*
C. C. Concannon, *At-Large*
M. L. Crossley, *At-Large*
Gustav Egloff, *Chicago Chapter*
Gustav Egloff, *Past President*
G. J. Esselen, *At-Large*
M. J. Hiler, *Ohio Chapter*
L. B. Hitchcock, *At-Large*
H. O. Kauffmann, *Niagara Chapter*
M. J. Kelley, *New York Chapter*
R. H. Kienle, *At-Large*
Harold A. Levey, *Louisiana Chapter*
C. P. Neidig, *At-Large*
Donald Price, *At-Large*
Louis N. Markwood *Washington Chapter*
Maurice Siegel, *Baltimore Chapter*
M. Sittenfield, *Pennsylvania Chapter*
Foster D. Snell, *Past President*
Raymond Stevens *New England Chapter*
Manuel Tubis, *Los Angeles Chapter*
Florence E. Wall, *At-Large*

National Council Meetings

Meetings of the AIC National Council will be held at The Chemists' Club, 52 E. 41st Street, New York, N.Y., at 6:00 p.m., on the following dates:

April 9, 1952
May 6, 1952

January Meeting

The 280th meeting of the AIC National Council was held at The Chemists' Club, New York, N. Y., on Jan. 9, 1952, at 6:00 p.m. President L. H. Flett presided.

The following officers and councilors were present: J.R. Bowman, C.L. Brown, M. L. Crossley, L. H. Flett, F. A. Hessel, M. J. Hiler, M. J. Kelley, R. H Kienle, C. P. Neidig, D. Price, M. Sittenfield, R. Stevens, L. Van Doren, and F. E. Wall. A. W. Fisher, Jr., O. B. J. Fraser, H B. Hass, B. Sage, and V. F. Kimball were present.

The minutes of the previous meeting were approved.

President Flett announced that the general chairman of the 1952 Annual Meeting will be Dr. S. D. Kirkpatrick; chairman of the Program Committee, O. B. J. Fraser; chairman of the Hospitality Committee, S. Coneybear, and chairman of the Finance Committee, Dr. M. J. Kelley.

Editorials for THE CHEMIST were requested from Mr. Sage for February; Drs. Brown and Bowman for March; Miss Wall and Mr. Stevens for April; President Flett and Mr. Fraser for May; Drs. Price and Fisher for June; and Dr. Kienle for an unspecified issue.

The Treasurer's report and a comparative report for the same period last year were presented and accepted.

The following Committee to Study the System of Awarding Student Medals was appointed: Mr. Stevens, chairman; Mr. Neidig and Dr. Donald Othmer.

The Secretary's report showed a total active membership of 2487.

The Secretary announced with deep regret the deaths of Dr. John W. Thomas, Hon. AIC, on November 26, 1951, and James G. Vail, F.A.I.C., on December 12, 1951.

A letter from H. A. Levey, council representative from the Louisiana Chapter was read. It described some of the activities of that Chapter.

Benjamin Sweedler, F.A.I.C., attorney-at-law, was appointed to represent the AIC at a meeting sponsored by the Association of the Bar of the City of New York, which concerned House Bills 4371 and 4373, House Resolution 4473, and the corresponding bill introduced in the Senate to permit retirement benefits for self-employed persons.

Mr. Fraser discussed possible program ideas for the Annual Meeting. These included a session on public relations or on employer-employee relations.

The Jury on Medal Award reported that Dr. F.J. Emmerich, president of Allied Chemical and Dye Corporation, has been chosen to receive the 1952 Medal of the INSTITUTE.

Dr. Hessel, reporting as chairman of the Committee to Consider Proposed Group Insurance, recommended against the adoption of the plan proposed. This plan required that 75 per cent of the membership participate, if policies are to be issued "without evidence of insurability," and it required that the INSTITUTE collect the premiums.

President Flett requested all Committees that have not yet reported to the Council to do so at the April meeting of the Council.

Mr. Sage reported that the Washington Chapter was undergoing a renewed surge of growth. Luncheon meetings and trips have been planned. A Committee to consider an honor scroll will report soon. A Committee has been appointed to take up with the Civil Service some of its "standards for chemists." For example, a chemist's compensation is based on how many men he commands. The Chapter will forward its recommendations to the National Council for approval.

Dr. Brown reported that the New Jersey Chapter met on December fourth.

Dr. Hass stated that a record attendance of students, over two-hundred, were present at its recent meeting, where five speakers pointed out the requirements for different occupations.

Mr. Hiler announced that a meeting of the Ohio Chapter's district directors would be held January 19th.

Mr. Stevens reported that the New England Chapter will renew its activities with the presentation of Honorary membership to Dr. Arthur J. Hill on January 24th. The speakers will be Dr. John A. Timm, for the recipient, and Dr. M. L. Crossley on Dr. Hill's professional career. The presentation will be made by President Flett.

Mr. Sittenfield stated that the Pennsylvania Chapter had held a most successful Honor Award dinner on December 6th, when Dr. Emil Ott received the Honor Scroll. On February 7th, Dr. Foote, vice president of the Gulf Development Company, will discuss Iranian Oil.

The following new members were elected:

FELLOWS

Bates, Robert Wade
Assistant Director of Development, Research Division, Armour & Co., Chicago 9, Illinois

Douglas, William Richard
Chemist, Division of Pathology, Dept. of Hospital, C. of N. Y., 125 Worth Street, New York, N. Y.

Gilman, Henry
Professor of Chemistry, Iowa State College, Ames, Iowa

Jackson, William Ward
General Manager, Industrial Chemistry Division, Commercial Solvents Corp., 17 East 42nd Street, New York, N. Y.

Kass, J. Peter
Director, Research Dept., Atlas Powder Co., Wilmington 99, Del.

Kruppa, William Joseph
Chemical Engineer, Section of Process Engineering Dept., Chief, Project Eng'r., American Cyanamid Co., Calco Div., Bound Brook, N. J.

McBee, Earl Thurston
Head, Dept. of Chemistry, Purdue University, Lafayette, Ind.

Morse, Roy Earl
Director of Research, Kingan & Co., Indianapolis, Ind.

Scherr, Oscar L.
Research Chemist, Lab., Process Chemicals Co., 2831 Exposition Place, Los Angeles 16, Calif.

Smith, Walter I.
Research Chemist, Research Dept., New York Quinine & Chem. Works, 99 North 11th Street, Brooklyn 11, N.Y.

MEMBERS

Davis, Merton L.
Research Chemist — Process Development, E. I. du Pont de Nemours, Camden, S. C.

Howard, Edwin C.
Naval Stores Dept., Hercules Powder Co., Klamath Falls, Oregon

Liebman, Samuel
Chemist & Production Manager, Valjean Pearl Co., 881 Gates Ave., Bklyn.

Morton, Jr., William P.
Chemist, Research, Picatinny Arsenal, Dover, N. J.

Neufeld, C. H. Harry
Assistant Professor, Dept. of Chem., American Univ., Washington, D. C.

ASSOCIATE

Sargent, Roger Nelson
Shift Supervisor, Styrene Lab., Koppers Co., Inc., Box 92, Monaca, Pa.

RAISED FROM MEMBER TO FELLOW

Brower, Jr., Loyd Richard
Tech. Director, Jamestown Paint & Varnish Co., Jamestown, Pa.

RAISED FROM ASSOCIATE TO FELLOW

Eiker, John T., 3rd
Chemical Engineer, E. I. du Pont de Nemours & Co., Wilmington 98, Del.

Kirshenbaum, Isidore
Research Chemist, Standard Oil Development Co., Linden, N. J.

Kolzow, Clarence R.
Finishing Engineer, Western Electric, Chicago 23, Ill.

Krummel, Edward W.
Group Leader, Development Lab., Bakelite Corp., 230 Grove St., Bloomfield, N. J.

Kushner, Lawrence M.
Physical Chemist, Surface Chem. Section, U. S. Dept. of Commerce, National Bureau of Standards, Washington, D. C.

Olmen, Lawrence B. D.
Research Chemist, Oakite Prod. Co., Inc., 22 Thames St., New York 6, N. Y.

Strauss, Ulrich Paul
Assistant Professor of Chemistry, School of Chemistry, Rutgers Univ., N. Brunswick, N. J.

Trask, Russell L.
Chemical Engineer in Propellants Branch, Picatinny Arsenal, U. S. Ordnance, Dover, N. J.

Tutwiler, Frank Bryan
Professor of Chemistry, King College, Bristol, Tenn.

Ulrich, Stephen E.
Chairman, Science Dept., Rutgers University, New Brunswick, N. J.

Vogenitz, Frederick Otto
Chemist in Charge, Ill. Paint Works, 1034 S. Kostner, Chicago, Ill.

RAISED FROM ASSOCIATE TO MEMBER

Byers, Samuel T.
Instructor in Chemistry, Canisius College, 2001 Main St., Buffalo, N.Y.

Hite, Robert Thornton
Assistant Lab. Supervisor, E. I. du Pont de Nemours & Co., P.O. Box 1477, Richmond, Va.

Lauenstein, Milton Charles, Jr.
Sales Representative, Silicones Section, Chemical Materials Dept., G-E Chemical Div., 1105 Chester Avenue, Cleveland, Ohio

McIntyre, Frank Joseph
Director & Owner, The Columbus Water & Chem. Test. Labs., 4628 Indianole Avenue, Columbus 14, Ohio

Plunkett, Ray Franklin
Chemist, Southern Railway Co., Testing Dept., Box 233, Alexandria, Va.

Rieger, John A.
Superintendent Liquid Sugar Dept., American Sugar Refining Co., 110 Key Highway, Baltimore, Md.

Romano, Albert P.
Development Chemist, Organic Chemistry Dept., E. I. du Pont de Nemours, Chamber Works, Deepwater, N. J.

Timasheff, Serge N.
Research Assistant, Yale University, Sterling Chemical Labs. New Haven, Conn..

RAISED FROM FELLOW TO LIFE

Concannon, Charles C.
Office of International Trade, Dept. of Commerce, Washington 25, D. C.

Speaker: Dr. Gustav Egloff, Hon.AIC, who addressed the Engineers Club of the University of Tulsa, Okla., on Feb. 26th, and that evening, the Petroleum Club of the Oklahoma Agricultural and Mechanical College, at Stillwater, on "The Modern Oil Industry." On Feb. 27th, he spoke to the Tulsa Rotary Club on "Petroleum Research Creates New Industrial Opportunities." He will address the Houston, Texas Rotary Club on March 6th.

AIC Activities

C. P. Neidig, F.A.I.C.

Baltimore Chapter

Chairman, Dr. H. Walter Kuhl
Vice Chairman, Dr. Norris Matthews
Secretary-Treasurer,
J. Bernard Edmonds
Representative to National Council,
Maurice Siegel

The Baltimore Chapter held a lecture meeting at Loyola College Chemistry Lecture Hall on January 10th. Dr. Charles E. Brambel, an outstanding biochemist, gave an interesting talk on the "Chemistry of Blood Clotting." Since 1940, Dr. Brambel has been engaged in research work at Mercy Hospital, Baltimore, developing a blood clot preventative technique and studying the composition and functioning of human blood. He is continuing this work at Mercy Hospital where he conducts a large clinic with hundreds of out-patients each week. Dr. Brambel discussed the mechanism of blood clotting and the use of Dicumarol, an anticoagulent, and vitamin K-2 which stimulates the coagulation of blood.

The next meeting of the Chapter will be held at Loyola College, March 20th. The speaker will be Dr. John H. Brewer, director of bacteriology, Hynson, Westcott & Dunning, Baltimore, whose subject will be "Research in Microbiology."

Ohio Chapter

Chairman, Dr. George F. Rugar
Chairman elect, Dr. Otis D. Cole
Secretary-treasurer, Harold M. Olson
Representative to National Council,
Dr. Malvern J. Hiler

A meeting of the Executive Committee of the Ohio Chapter was held on January 19th, attended by Dr. George F. Rugar, Dr. Otis D. Cole, Harold M. Olson, Dr. Malvern J. Hiler, Dr. James R. Withrow, Dr. David M. Gans, Eugene R. Ewell, and Dr. Joseph H. Koffolt. A motion was carried to hold a

membership contest among the various districts of the Ohio Chapter. The contest will end on December 31st. The annual meeting of the Chapter will be held in the winning District, and a prize will also be presented to the winning membership team.

Dr. Hiler was requested to ask the National Council of the AIC to hold the 1953 national meeting in the area served by the Chapter which obtains the greatest percentage increase in membership during 1952, above an increase of fifty members.

The 1952 annual meeting of the Ohio Chapter was scheduled for the Hotel Biltmore, Dayton, Ohio, on April 25th, for which a $2.00 registration fee was set. It was agreed that University students in chemistry and chemical engineering be admitted without registration fee, and Dr. Wohlleben of the University of Dayton was appointed to handle the student reservations.

The following committee to select the recipient of the 1952 Ohio Award was appointed: Dr. Joseph Koffolt, chairman; Dr. Herman A. Bruson, Dr. Clyde E. Williams, and Dr. James R. Withrow.

Nominations for Student Medal Awards were requested from the various districts of the Chapter.

New England Chapter

Chairman, Dr. A. W. Fisher, Jr.
Secretary-Treasurer, James W. Perry
Representative to National Council, Raymond Stevens

Dr. Arthur J. Hill, F.A.I.C., received Honorary Membership in THE AMERICAN INSTITUTE OF CHEMISTS, at a meeting held January 24, 1952, at the Harvard Faculty Club, Cambridge, Mass. Prof. John A. Timm, director of the School of Science at Simmons College, spoke for the recipient. Dr. M. L. Crossley, Hon. AIC, of the American Cyanamid Company, New York, and past president of the INSTITUTE, discussed Dr. Hill's professional career. AIC President Flett made the presentation. Dr. Hill was cited for his long service as an educator and in particular for his encouragement and guidance of young chemists.

The 1952 Annual Meeting

The 29th Annual Meeting of THE AMERICAN INSTITUTE OF CHEMISTS will be held May 7th and 8th at the Hotel Commodore, New York, N.Y. The following committee members have been appointed:

General Chairman, Dr. Sidney D. Kirkpatrick

Chairman of Program Committee, O. B. J. Fraser

Chairman of Arrangements Committee, Dr. M. J. Kelley

Chairman of Hospitality Committee, S. F. Coneybear

Chairman of Finance Committee, Dr. M. J. Kelley

The program for the meeting will appear in the April issue of THE CHEMIST.

Will You Come?

Mar. 11th. Washington, D.C. Chapter. Luncheon Meeting, 12:30 p.m., Jefferson Hotel, 1200-16th St., N.W., Washington, D.C.

Mar. 20th. New York Chapter. American Museum of Natural History, 79th Street & Central Park West, New York, N.Y. Buffet Supper at 6:00 p.m. $3.00. Student Medal Awards. Speaker: Dr. Herman F. Mark, F.A.I.C., of Polytechnic Institute of Brooklyn. Nominations for N.Y. Chapter officers.

Mar. 20th. Baltimore Chapter. Loyola College. Speaker: Dr. John H. Brewer, director of bacteriology, Hynson, Westcott & Dunning, on "Research in Microbiology."

Mar. 25th. AIC Luncheon, sponsored by the Niagara Chapter as part of the 121st National Convention of the American Chemical Society, Buffalo, N.Y. AIC members who plan to attend the Convention should send luncheon reservations to T. E. Gilbert, Bisonite Co., Inc., 125 Lakeview Ave., Buffalo 1, New York.

Apr. 4th. Chicago Chapter meeting. (Write W. L. Kubie, Sec.-Treas. AIC Chicago Chapter, c/o Darling & Co., 4201 S. Ashland Ave., Chicago 9, Ill. for details.)

Apr. 25th. Ohio Chapter. Annual Meeting. Hotel Biltmore, Dayton, Ohio.

May 1st. Pennsylvania Chapter. Presentation of Student Medals to outstanding college seniors in area. Speaker to be announced.

May 2nd. Chicago Chapter meeting. (See Apr. 4th item above.)

May 7-8th. Annual Meeting of THE AMERICAN INSTITUTE OF CHEMISTS. Hotel Commodore, New York. (see page 128).

May 22nd. Annual Meeting, New York Chapter. Program to be announced.

June 6th. Chicago Chapter meeting. (See Apr. 4th item above.)

AIC Members who are in Washington, D.C., can find out about Washington Chapter meetings by telephoning the Chapter secretary, Paul E. Reichardt, at Republic 3275, Extension 221.

AIC Members who plan to visit New Orleans, La., are invited to get in touch with National Council Representative, Harold A. Levey, 311 Audubon Blvd., New Orleans, La.

Expansion Program: By the Lithium Corporation of America, Inc. First step, construction of a $250,000 flotation mill for recovering spodumene concentrates in the Black Hills area of South Dakota. Second, enlargement of facilities at the company's Metalloy Corp. Division plant in Minneapolis for increasing the production of lithium metal and compounds.

Opportunities

Doris Eager, M.A.I.C.

Position Available

Young chemical engineer, with B.S. in chemical engineering or metallurgy, with experience in explosives. For plant operations position in North Carolina. Salary $600. Send complete resume. Box No. 31, THE CHEMIST.

Chemists Available

Biochemist: F.A.I.C., M.S., over 12 years experience, including supervision of clinical laboratories. Interested in research or analytical work in clinical medicine, biochemistry, pharmaceutical or related fields. Location open. Box 30, THE CHEMIST.

Organic Chemist: M.A.I.C., Ph.D., 3 years industrial research and development. Experience in pharmaceuticals and surfactants. Seeking position offering opportunity for advancement in N.J., Conn., or metropolitan N.Y. Box 32, THE CHEMIST.

Chemist: F.A.I.C., Ph.D., Age 39. 10 years industrial experience organic research development and sales service, publications and patents, now in charge of research group. Desires change to more aggressive, growing research and development organization. Interested in business management, likes to meet people and make contacts. Type of work and organization more important than starting salary. Box 34, THE CHEMIST.

Honored: Dr. Wallace Hume Carothers, inventor of Nylon, by the establishment of an annual research professorship in chemistry at Harvard University, providing $15,000 annually for five years, it was announced by E. I. du Pont de Nemours & Co.

For Your Library

Colorimetric Determination of Traces of Metals

Chemical Analysis Series, Vol. III. Second Edition. By E. B. Sandell. Interscience Publishers. 673 *pp.* 6" *x* 9". $9.00.

This is an intensive rather than a comprehensive survey of methods for the colorimetric determination of small amounts of metal and covers only those procedures which have, so far, proven to be best suited for dealing with such metallic traces. Beginning with a general description of trace analysis, the author describes, in Part I, each of these methods and the general colorimetric reagents. Part II is devoted to procedures for the determination of traces of metals, each of which is taken separately. The appendix includes: Four-place Logarithms, Transmission-Extinction Table, International Atomic Weights, Sensitivities of Color Reactions, and both author and subject indexes are included. This will be a useful addition to the library of those interested in analytical chemistry.

—Dr. Frederick A. Hessel, F.A.I.C.

Frontiers in Colloid Chemistry

Volume VIII. Editors: R. E. Burk and Oliver Grummitt. Interscience Publishers, Inc., 1950. 157 *pp.* 6" *x* 9". $4.00.

The editors state in the Preface: "This volume concludes the publication of the lectures given at Western Reserve University under the title 'Frontiers in Chemistry.'" The discontinuance of this series will be regretted by those who feel that there is a gap between the completely specialized monograph and the exclusively didactic textbook. This gap should be filled by more books like "Frontiers in Colloid Chemistry," small books on special subjects which can be fruitful and stimulating for workers in different fields.

The first part in this book is a general treatment of "the role of adsorption in colloid science," by Hugh S. Taylor. The application of the general concepts to chromatographic adsorption analysis is described by Harold H. Strain, the application to ion exhcange by Robert J. Myers. These are brief surveys, mostly based on the experience of the authors and literature selections. V. R. Damerell's chapter on sedimentation contains informative tables, but unfortunately no figures to illustrate the descriptions of ultracentrifuge systems. The last two chapters by James M. McBain on colloidal electrolytes, wetting agents, detergents, crystals and micelles of soaps are particularly stimulating. He concludes: "One is brought back to the fact that only a beginning has been made in the study of solutions of colloidal electrolytes."

—Dr. Eduard Farber, F.A.I.C.

Chemical Books Abroad

Rudolph Seiden, F.A.I.C.

Springer-Verlag, Berlin W 35: *Faerberei und textilchemische Untersuchungen,* by P. Heermann and A. Agster, 8th ed., 438 pp., 55 ill., DM 34.50. A practical laboratory guide for the chemical analysis, coloristic investigations, and evaluation methods of raw materials, auxiliary agents, and finished products of the textile industry

Churchill Ltd., London (Blakiston Co., Philadelphia): *Poisons,* by F. Bamford and C. P. Stewart, 3rd ed., 316 pp., 23 ill., $5.50. Poisons and their isolation and identification are the scope of this dependable laboratory manual. All the poisons of practical importance in toxicological analysis, including the new sulfonamides and antihistaminic drugs, have been considered in this revised edition of Bamford's standard book.

World Health Organization, Geneva (Columbia University Press, New York 27): *Pharmacopoea Internationalis, I,* 1951, 406 pp., $5.00. The desire for the unification of terminology and internationally accepted standards is more than 75 years old. It has now materialized through the efforts of the WHO: the first volume of its International Pharmacopoeia contains 199 monographs of drugs and 43 appendices of definitions, assays, dosages, etc. The nomenclature system of the International Union of Chemistry and the Patterson ring index of structural formulas have been accepted for this book which, no doubt, will be used as a guide for new editions of many pharmacopoeias of UN countries.

Ernst Reinhardt Verlag A. G. Basel: *Qualitative Arzneimittelanalyse*, by H. Muehlmann and A. Buergin, 1951, 285 pp., paper covers, Sfr. 10. A useful compilation of reactions for the identification of pharmaceutical preparations with the help of simple equipment.

Vandenhoeck & Ruprecht, Goettingen: *Grundriss der technischen Chemie*, by Carl Kroeger. 1951, paper covers. A broad outline of the technical chemistry is planned for publication in 7 parts. *No. 2* is dedicated to the technical *inorganic chemistry* (181 pp., 155 ill., DM 12.80)—e.g., purification of materials; homogeneous, heterogeneous, catalytic, and nuclear reactions—; *No. 3* deals with technical *electrochemistry and metallurgy* (167 pp., 158 ill., DM 12.80). Nos. 1 and 4 to 7 are said to be released at short intervals during 1952.

W. Green & Son, Ltd., Edinburgh: *Animal Nutrition and Veterinary Dietetics* by R. G. Linton and J. T. Abrams, 3rd ed., 521 pp. and 15 plates, 42 s. The feedstuffs, their chemical constituents, and the feedstuff needs of livestock for maintenance, growth, reproduction, lactation, and work are discussed; in addition, up-to-date material is collected on practical feeding of the different species of animals, including the laboratory animals which are so widely used by nutritional and physiological research workers.

Leonhard Hill Ltd., London W 1: *The Chemical Senses*, by R. W. Moncrieff, 2nd ed., 538 pp., 21 s. A most complete compilation of data concerning the two chemically stimulated senses: taste and smell. Thus, main chapters of the book are entitled olfaction; gustation; flavor and food; odors; and perfumes.

Association of British Pharmaceutical Industry, London W C 1: *Cost Accounting for the Pharmaceutical Industry*, 1951, 109 pp. This is the report of the Costing Committee appointed by the Association to examine costing practice in the pharmaceutical industry, supplemented by many recommendations to improve it and to bring about greater uniformity in the methods now in use.

Information

"'Dag' Colloidal Graphite as a Parting Compound." Bulletin 427, Acheson Colloids Corp., Port Huron, Mich.

"Metal for Industry." 48 pp. brochure. Continental Copper & Steel Industries, Inc., 345 Madison Ave., New York 17, New York.

"National Associations of the U. S." Prepared by U.S. Dept. of Commerce. 700 pp. Buckram bound. $3.50. U.S. Government Printing Office, Washington 25, D.C.

"New Heavy Duty Quick Coupling." Information. Roylyn, Inc., 718 West Wilson Ave., Glendale 3, Calif.

"Ambertex M. Vat Thickener." Information. National Starch Products, Inc., 268 Madison Ave., New York 16, N.Y.

"Quick-set Thermo-regulators." Information. H-B Instrument Co., 2633 Trenton Ave., Philadelphia 25, Pa.

"GS Tilter for 5-gallon Bottles." General Scientific Equipment Co., 2700 W. Huntingdon St., Philadelphia 32, Pa.

"Successful Can Labeling." Booklet. National Adhesives, 270 Madison Ave., New York 16, N.Y.

"Physical Chemical Research in the Protective Coating Industry." Calco Technical Bulletin No. 901. By Dr. Roy H. Kienle, F.A.I.C. American Cyanamid Co., Calco Chemical Div., Bound Brook, N.J.

"El Plan Armour." Resume of activities of International Division of Armour Research Foundation of Illinois Institute of Technology, 3300 So. Federal St., Chicago, 16, Illinois.

"Why Glycerine for Drugs and Cosmetics?" Booklet. Glycerine Producers' Association, Dept. P. R., 295 Madison Ave., New York 17, N.Y.

"Safe Handling of Radioactive Isotopes." 29 pp. 15 cents. Superintendent of Documents, U.S. Gov. Printing Office, Washington 25, D.C.

"Plastic Preforming." Brochure. F. J. Stokes Machine Co., Philadelphia 20, Pa.

"Ytong Building Block." Information. American Nayco Corp., NBC Building, Cleveland, Ohio.

"Dr. H. Jansonius Dutch-English Dictionary." 2 Vols. Price 35 Dutch guilders. Information. Nederlandsche Uitgeversmaatschappij N.V., Breenstraat 117, Leiden, Holland.

"Witco 8% Copper Naphthenate." Technical Service Report P-15. Witco Chemical Co., 295 Madison Ave., New York 17, N.Y.

"Lanco Apparatus News." Published by Arthur S. La Pine & Co., 121 W. Hubbard, Chicago 10, Ill.

"Selected Laboratory Equipment." Catalog. Schaar and Company, 754 W. Lexington St., Chicago 7, Ill.

"Economic Horizons." Monthly publication. Jewish Agency for Palestine, 18 E. 66th St., New York 21, N.Y.

"Deeminizer." Portable Apparatus for water conditioning. Resinous Products Div., Rohm & Haas Co., Philadelphia, Pa.

"Roura Self-Dumping Hopper." Information. Roura Iron Works, Inc., 1407 Woodland Ave., Detroit 11, Mich.

"Petroleum Horizons." Handbook. The Lummus Co., 420 Lexington Ave., New York 17, N.Y.

"Bottom Hopper Dump Trailer." Information. Gramm Trailer Corp., Delphos, Ohio.

"Let's Look it Up". Catalog. Reinhold Publishing Corp. 330 W. 42nd St., New York 18, N.Y.

"New Products for the Food Industry," 8 pp. catalog; "Esters", 24 pp. catalog; and "Glyco Cosmetic Manual," 20 pp. booklet. Glyco Products Co., Inc., 26 Court St., Brooklyn, N.Y.

Labeled Sugars: Those prepared with radioactive carbon atoms located in specific positions within the molecule, will be prepared by the National Bureau of Standards for researchers. They will have particular application in an investigation of the synthesis of labeled cellulose initiated by Dr. Glenn A. Greathouse, F.A.I.C., of the National Research Council.

Reprinted: Excerpts from the paper by Marvin J. Udy, entitled, "Electric Furnace Smelting and High Temperature Chemistry," in the *Journal of the Electrochemical Society*. The paper was presented at the Annual AIC Meeting held May 10th and appeared in THE CHEMIST, June, 1951. The complete paper was published in *Canadian Chemistry and Industrial Processes*.

Credit Line Omitted: The photograph of Dr. John E. McKeen, which appeared on the front cover of the January, 1952, issue of THE CHEMIST, should be credited to Karsh, Ottawa, Can.

Speaker: Dr. F. A .Lowenheim, F.A.I.C., research chemist, Metal and Thermit Corp., Rahway, N. J., who discussed the process of plating tin-zinc alloys before the Electrochemical Society meeting in October, at Detroit, Mich.

Fifth Annual Meeting: Of the Research and Development Associates of the Food and Container Institute, April 15th to 17th, at The Palmer House, Chicago, Ill.

National Chemical Exposition: Sponsored by the Chicago Section of the American Chemical Society, to be held in the Chicago Coliseum, September 9th to 13th. Herbert F. Schwarz, F.A.I.C., is in charge of the feature, The Trail Blazers, which offers free exhibit space for new ideas. Seymour Goldfarb, M.A.I.C., is chairman of the Chemists' Art Exhibit.

Established: The annual H. W. Gillett Memorial Lecture by the American Society for Testing Materials in cooperation with Battelle Memorial Institute, to commemorate Horace W. Gillett, first director of Battelle and an active worker for many years in ASTM. The first lecture will be given at the Society's 50th Anniversary Meeting, New York, N.Y., during the week of June 23rd.

Meetings: Scheduled by the Association of Consulting Chemists and Chemical Engineers, Inc., 50 E. 41st St., New York 17, N. Y.; April 22nd, General Symposium, Hotel Belmont Plaza, New York, N. Y. June 6th, Outing, Westchester Country Club, Rye, N.Y. Oct. 28th, Annual Symposium, Hotel Belmont Plaza.

Fiftieth Anniversary Meeting: Of the American Society for Testing Materials, June 23rd to 27th, in the Hotels Statler and New Yorker, New York, N.Y. Dr. L. T. Work, F.A.I.C., is vice chairman of the Committee on Arrangements and chairman of the subcommittee on Laboratory and Plant Visits. Ephraim Freedman, F.A.I.C., is chairman of Promotion and Publicity. K. G. MacKenzie, F.A.I.C., is chairman of the Finance Committe.

Economic Aspects: Of chemical engineering projects to be discussed by the Boston Section of the American Institute of Chemical Engineers, University Club, 40 Trinity Place, Boston, Mass., on April 16th. Philip Seaver, Badger Manufacturing Company, Cambridge, Mass., is in charge of reservations.

Fiftieth Anniversary: Of the Electrochemical Society, to be celebrated in Philadelphia at the Benjamin Franklin Hotel, May 4th to 8th. For information, write Henry B. Linford, Secretary, 235 West 102nd St., New York 25, N.Y.

Meeting: Society for Applied Spectroscopy, April first, Socony-Vacuum Training Center, 63 Park Row, New York, N. Y. Speaker: Dr. R. A. Friedl, U. S. Bureau of Mines, on "Correlations and Applications in Ultraviolet Spectrophotometry."

Fiftieth Anniversary: Of Edward Mallinckrodt, Jr., with Mallinckrodt Chemical Works, celebrated by seventeen-hundred employees at the St. Louis Plant, in November. Mr. Mallinckrodt, who succeeded his father as chairman of the board in 1928, recounted the early history of the business, which was started by three brothers in 1867 with $10,000 which their father had borrowed on his land. Its success was based on the knowledge that "quality of product, financial stability, and efficient service are not machine made but are products of personality and character . . . That is the basic strength of the Mallinckrodt Chemical Works."

Rare Drug: Triphosphopyridinenucleotide, TPN, available in quantities of 50 to 100 micrograms, from Armour & Company, Chicago 9, Illinois, to "any competent scientist who has some hopeful ideas about it." TPN is extracted from liver and is "so costly that it can only be given away ($363,000 a pound)." Armour offers it to science, in the hope that some one will find out what it does and whether it has any drug value.

To Egypt: Martha A. Oyler, A.A.I.C. who is teaching at American College in Cairo. She received a student medal from the Chicago AIC Chapter in 1950.

Chairmen: Dr. G. M. Kline, F.A.I.C., of the National Bureau of Standards, who presided over the first session of a symposium on the mechanisms of polymer degradation held at the National Bureau of Standards in September; and Dr. R. B. Mesrobian, M.A.I.C., of Polytechnic Institute of Brooklyn, who presided over the fifth session.

Speaker: Dr. Ivor Griffith, F.A.I.C., president of the Philadelphia College of Pharmacy and Science, who spoke at the Kiwanis meeting in Atlantic City, N.J., November first, on "Pharmacy Today and Tomorrow." He also spoke for the 1951 Remington Medalist, Hugo H. Schaefer, at the American Pharmaceutical Association's dinner in New York, December 11th.

Completed: First major unit of Pittsburgh Coke & Chemical Company's new central research laboratories at Neville Island, near Pittsburgh, Pa.

Elected: Leo A. Rauch, F.A.I.C., secretary of Schaar & Company, Chicago 7, Ill., as director of the Far West Side Community Council of Chicago.

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Progress: Emphasized at the first annual antibiotic sales conference of Charles Pfizer & Co., Inc., held on September 24th. Dr. John E. McKeen, F.A.I.C., president, presided, and pointed out that as recently as March, 1950, Pfizer's antibiotic sales division consisted of a sales manager, an advertising manager, and eight detail men; now it has a sales force numbering in the hundreds.

Transferred: A section of the inorganic research activities of Monsanto Chemical Company's Phosphate Division research department from Anniston, Alabama, to Dayton, Ohio.

New Company: Pennsalt de Mexico, S.A., Mexico City, formed by Pennsalt International Corporation. The company will manufacture, package, and market insecticidal dusts.

To Florida: Dr. Walter J. Baeza, F.A.I.C., president of the Industrial Research Company, who has moved his firm from New York, N.Y., to St. Petersburg.

Engaged: Miss Janet Hazelwood, daughter of Mrs. Laura P. Hazelwood of New York, N.Y., and Lakewood, Ohio, to Elbridge Stratton Stevens, M.A.I.C., of Bronxville, N.Y. He is with the Research and Development of Colgate-Palmolive-Peet Company, Jersey City, N.J.

New Position: Doris Eager, M.A.I.C., has accepted a position with Dr. Charles R. Downs, F.A.I.C., consulting chemist and chemical engineer, 50 E. 41st St., New York 17, N.Y. She was formerly on the staff of THE AMERICAN INSTITUTE OF CHEMISTS.

Japanese Branch: Opened by R. S. Aries & Associates, New York, N.Y. H. F. Alber, chemical engineer and consultant to the Japanese Government, heads the office which is located at 19 Shin-Sakurada-Cho, Shiba Minato-Ku, Tokyo, Japan.

Consolidated: Olin Industries, Inc., East Alton, Ill., and Frost Lumber Industries, Inc., Shreveport, La. Frost Lumber will continue operations under its present management, as a division of Olin.

Condensates

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It is well for us that American industry presses forward with research on its own account; well for us that American industry has, to so great an extent, been built on products which resulted from research. This fact means that the adaptability, the readiness to pioneer, demanded by the research spirit are an accustomed matter to our industry.

——Vannevar Bush

Incorporation of radioactive carbon into the carbon dioxide intake of laboratory onions interferes with the growth processes. Research indicates, moreover, that C-14 in the diet of plants causes breakup of chromosomes—the carriers of genes which determine hereditary characteristics.

Originality of thought is the commodity most needed in science today.

—Dr. James G. Horsfall

A good observer sees what he is not looking for, if it is there; and does not see what he is looking for, if it is not there.

—Frank Gilbreth

A new mercury red-signal compound, reported by Dr. H. S. Bennett of the University of Washington Medical School, is believed to be the first chemical ever developed to trace body chemicals by sight.

Limited experiments indicate that certain plants, particularly strawberry plants, may be protected by dusting with activated carbon or Nuchar before setting in soil that has been pre-treated with 2,4-D.

In its frustration, the Congress is groping for some sort of code of ethics! . . . May I suggest that we already have some old and tested codes of ethics! There are the ten Commandments, the Sermon on the Mount, and the rules of the game which we learned at our mother's knee. Can a nation live if these are not the guides of public life?

—Herbert Hoover

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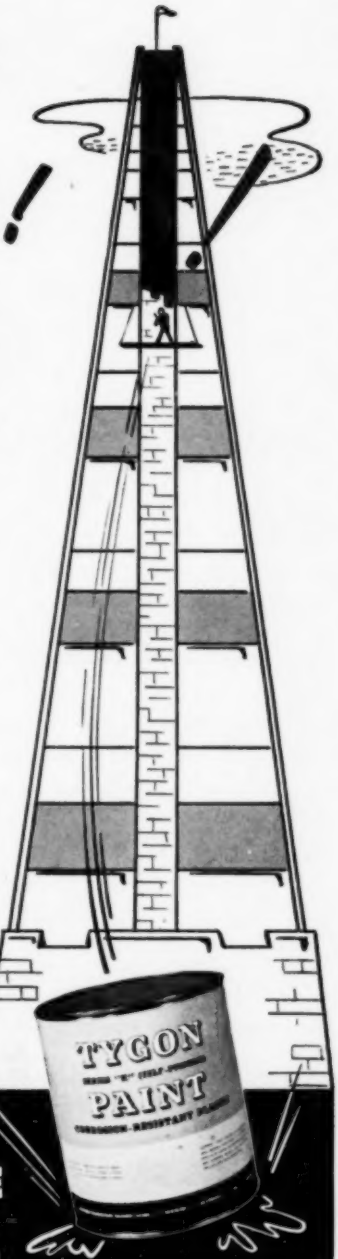

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